

ORTHOGONAL ACCELERATION TIME-OF-FLIGHT MASS SPECTROMETER  
ABSTRACT OF THE DISCLOSURE

An orthogonal acceleration time-of-flight (oa-TOF) mass spectrometer is offered in which the repeller plate forming the ion reservoir is prevented from being electrically charged. This in turn prevents the mass spectral resolution and sensitivity from deteriorating. The mass spectrometer has an (a) external ion source for producing ions, (b) a space in which the ions are made to stay, (c) the ion reservoir consisting of the repeller plate and grids disposed on the opposite sides of the space to accelerate the ions in a pulsed manner out of the space, (d) a time-of-flight mass spectrometric portion for mass separating the ions taken out of the ion reservoir via its internal grids, (e) an ion detector for detecting the mass-separated ions, and (f) a heater for heating the repeller plate.